

WHAT IS CLAIMED IS:

5 1. A tilt correction method of a movable portion for correcting tilt of said movable portion caused when said movable portion is moved in a direction orthogonal to a longitudinal direction of an elastic supporting member (hereinafter referred to as an orthogonal direction), said movable portion being connected to a fixed portion by a plurality of elastic supporting members and displaceably arranged in said orthogonal direction, wherein the tilt of said movable portion is corrected by varying expansion/contraction amounts of said plurality of elastic supporting members caused when said movable portion is moved in said orthogonal direction.

5 2. The tilt correction method of the movable portion according to claim 1, wherein each of said plurality of elastic supporting members has at least one bent portion, and the tilt of said movable portion is corrected by varying expansion/contraction amounts of said bent portions of said elastic supporting members when said movable portion is moved.

5 3. A tilt correction method of an objective lens for an optical disk for correcting tilt of a movable portion caused when moved in a focus direction, said movable portion holding said objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion for elastically supporting said movable portion in a manner displaceable at least in the focus direction are being provided, wherein

10 said elastic supporting member has at least one bent portion bent approximately in the focus direction, and said bent portions of said elastic supporting members arranged in parallel in the focus direction are adjusted to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member.

4. An objective lens driving device for an optical disk including a

movable portion holding the objective lens, a fixed portion, and a plurality of elastic supporting members connecting said movable portion and said fixed portion and elastically supporting said movable portion in a manner
5 displaceable at least in a focus direction, comprising correction control means for controlling tilt of said movable portion caused when moved in the focus direction by adjusting deflections of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of
10 said elastic supporting members in a direction offsetting a moment produced from deflection of said elastic supporting member.

5. The objective lens driving device for optical disk according to claim 4, wherein said elastic supporting member has at least one bent portion bent approximately in the focus direction for adjustment of deflection.

6. The objective lens driving device for optical disk according to claim 4, wherein said two elastic supporting members arranged in parallel approximately in the focus direction are symmetric about a surface perpendicular to the focus direction.

7. The objective lens driving device for optical disk according to claim 4, wherein said two elastic supporting members arranged in parallel approximately in the focus direction have a slope portion.

8. The objective lens driving device for optical disk according to claim 4, wherein said two elastic supporting members arranged in parallel approximately in the focus direction have a bent portion bent approximately in a tracking direction.

9. The objective lens driving device for optical disk according to claim 4, wherein said two elastic supporting members arranged in parallel approximately in the focus direction have a bent portion approximately in a shape of a square with one side opened.

10. The objective lens driving device for optical disk according to claim 4, wherein said elastic supporting members arranged in parallel approximately in the focus direction have said respective bent portions at the same position from the fixed portion, and bending lengths of said bent portions are different.

11. The objective lens driving device for optical disk according to claim 4, wherein said elastic supporting members arranged in parallel approximately in the focus direction have said bent portions at different positions from the fixed portion, and bending lengths of said bent portions are the same.

12. The objective lens driving device for optical disk according to claim 4, wherein said elastic supporting member is provided in such a way that a straight line connecting fixing positions on the sides of said movable portion and said fixed portion is approximately in parallel with a disk surface.

13. The objective lens driving device for optical disk according to claim 4, wherein said movable portion is supported in a manner displaceable approximately in a radial direction, and a displacement in the radial direction is caused by rotation approximately about a center of gravity.

14. The objective lens driving device for optical disk according to claim 13, wherein said elastic supporting member is provided inwardly from said fixed portion toward said movable portion.

15. The objective lens driving device for optical disk according to claim 4, wherein an arm portion and a protruding portion of free ends branched from said elastic supporting member are connected by a damper material near said at least one bent portion of said elastic supporting member.

16. An optical recording/reproducing apparatus using, for recording, reproducing and erasing optical information, an objective lens driving device for an optical disk including a movable portion holding an objective lens, a fixed portion, and a plurality of elastic supporting members
5 connecting said movable portion and said fixed portion for elastically supporting said movable portion in a manner displaceable at least in a focus direction, wherein

said objective lens driving device for optical disk includes correction control means for correcting tilt of said movable portion caused when moved
10 in the focus direction by adjusting deflections of said elastic supporting members arranged in parallel in the focus direction to cause expansion/contraction of said elastic supporting members in a direction offsetting a moment produced from the deflection of said elastic supporting member.

17. The optical recording/reproducing apparatus according to claim 16, wherein said optical recording/reproducing apparatus records, reproduces and erases optical information with use of a light source having a short wavelength of violet or blue.